

a release agent, and

wherein when said composition combusts, the combustion takes place [of] at a rate and a temperature sufficient to qualify said composition for use as a gas generating composition to [generant] generate gas suitable for use in deploying said air bag or said balloon[s].

### **REMARKS**

Applicants respectfully suggest that their application deserves indication that at least some, if not all, of the elected claims are allowable.

The above presented amendment to claim 1 and re-writing claim 117 as an independent claim do not concern any new issue of patentability. The correction at line 7 in claim 1 corrects a typographical error. The claim 117 “wherein” clause was edited to correct editorial oversights. The claim amendments do not create any new issues and entry for purposes of an Appeal is respectfully requested.

### **Terminal Disclaimer**

A Terminal Disclaimer will be considered upon indication of allowable subject matter.

### **The requirement for restriction should be reconsidered and withdrawn.**

First, the MPEP Section 803 directs that if the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims independent of distinct inventions. The Examiner has not proffered a sound factual predicate for imposing the requirement for restriction.

Second, the Examiner has also failed to consider claims on their merits, which claims are part of the elected group of claims. As indicated earlier, the Examiner's reliance on MPEP 806.04(e) lacks basis, and in short is not well taken. The cited MPEP 806.04(e) provision does not support the Examiner's opinions expressed in the prior office action. The present office action and the prior office action nowhere addressed claim 102, which claim specifically provides:

102. A gas generating composition as defined in claim 85, wherein said composition is formulated from ingredients comprising:

at least one complex of

a metal cation

at least one ammonia ligand, and

sufficient oxidizing anion to balance the charge of the metal complex wherein said composition contains about 50% to about 80% by weight of said complex and said anion; and

said release agent.

Claim 102 reads on the elected species. Clearly, the Examiner has not examined the elected claims and the final rejection is premature.

**The claims define patentable inventions.**

Claim 1 defines a novel invention over the cited Cook et al., Rausch and Hommel et al. references.

The Examiner's recitation of case law is acknowledged, but is simply irrelevant.

The claimed solid gas generating composition is formulated to generate gas to deploy an airbag or balloon from a supplemental restraint system. An airbag system in a vehicle is a supplemental restraint system. This solid gas generating composition is specifically defined in claim 1 as the complex such that when the complex combusts, a mixture of gas suitable for use in deploying the airbag or balloon from a supplemental restraint system is produced. The

references are directed to compositions in which the bulk of the composition comprises ammonium nitrate, or a highly-metallized (reactive wt. % powdered metal) thermite type composition as in the Rausch et al. reference. The present application does not concern such highly metallized thermite-type compositions. It does not concern a composition like thermite that burns so intensely and hotly as to melt any particular device, such as a housing used in a supplemental restraint system in an automobile, truck, or other vehicle.

Other cited art concerns compositions directed to ammonium nitrate, such as in the cited Hommel et al. reference, U.S. Patent No. 4,925,600, would not be suitable for use in deploying an airbag or balloon from a supplemental restraint system. The reason is quite clear to one who is actually skilled in the art. Particular points of importance to show that Hommel reference does not suggest or disclose Applicants claimed inventions, include the following:

- A. High temperature storage requirements lead to irreversible damage, a change in performance, and even phase changes in ammonium nitrate. Phase changes are beyond the catastrophic crystalline changes as ammonium nitrate cycles between different temperatures, but also includes disassociation of ammonium nitrate at higher temperatures, including sublimation or reaction with other constituents in a formulation.
- B. Ammonium nitrate is extremely hygroscopic. Absorption of small amounts of moisture can in part phase instability to the composition. This phase instability associated with ammonium nitrate would be undesired in a solid gas generating composition formulated for generating gas suitable for use in deploying an airbag or balloon from a supplemental restraint system.
- C. Compositions containing large amounts of ammonium nitrate typically have flame temperatures which lead to excessive production of  $\text{NO}_x$  and excessive CO production due to the temperature dependent equilibrium relationship of carbon monoxide to carbon dioxide, water and hydrogen. That is unacceptable in supplemental restraint systems, for instance, automotive applications.
- D. Compositions containing large amounts of ammonium nitrate tend to have high pressure exponents and temperature sensitivity leading to

large variability in performance and reduced safety margins over the commercially dictated operating ranges.

The above principles would be readily apparent to the person having skill in this art and would have led the ordinary artisan to discard the cited prior art. Such a person would have concluded Applicants claims define novel compositions, which would not have been evident or suggested by these references. Indeed, example 2 of the cited Hommel et al. '600 reference contains 91.96 parts of ammonium nitrate, and that is not the claimed invention because it claims 1, 85, 102, 117 or any other elected claims.

Furthermore, none of the references teach claim 117, which characterizes the composition such that when it combusts, the combustion takes place at a rate and a temperature sufficient to qualify the composition for use as a gas generating composition to generate gas suitable for use in deploying said airbag or said balloons. Clearly, since original unamended claim 117 refers to "said airbag or said balloons" it means that the properties of combustion rate and temperature with respect to said airbag or balloon are claim limitations. Since the preamble to claim 1 provides the antecedent basis for "said airbag" in claim 117, the reference to the gas being suitable for deploying said airbag or said balloon is therefore part of the invention as it is being defined by Applicants. (The Applicants are, of course, entitled to be their own lexicographers.) The claim 117 feature is nowhere found or suggested by the references.

The obviousness rejection of selected claims 1, 83-91 and 114-117 over Cook et al. and Hommel et al., in view of Christmann et al. is misplaced.

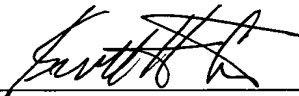
The Christmann et al. reference refers to a process of filling the bore holes with explosives. More particularly, its invention is said to be directed to a method of filling an aquiferous bore hole with a powdered ammonium nitrate type explosive whereby water need not be removed prior to the time that the explosive composition is introduced into the bore

hole. The composition preferably consists of 60 to 98 weight percent of ammonium nitrate and only 2 to 40 weight percent combustible substances. This is clear from reading column 3 at lines 35-41. A composition having 60 to 98 weight percent ammonium nitrate would be facially recognized as being unsuitable for use in the formulation of a gas generant composition which, when combusted generates gas suitable for deploying an airbag or balloon from a supplemental safety restraint system.

Accordingly, please withdraw the finality, enter this amendment and examine all elected claims (including claim 102).

Respectfully submitted,

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